THE GROUND PLANE
SOUTH BAY AMATEUR RADIO ASSOCIATION
ARRL MEMBER CLUB SINCE 1974

Volume 1 Edition 1 January 2000

SBARA Welcomes in the New Millennium

The Mystery and Suspense of Y2K All the Hype – Was it Fact or Fiction?

Y2K put fear into the minds of Mankind. The new Century and Millennium were welcomed across the World without any major catastrophes – no Global Thermal Nuclear reactors went amuck - at least that we heard. However, we are launching recon satellites up into space just to see if we are glowing!!! Of course there were runs on the local Radio stores – rechargeable batteries were a big number as well as dipole antennas since the ham community heard that rotors might be affected by the Y2K bug. Well all is well and mankind will forge ahead without any major problems but oh wait this just in**... Happy New Century from SBARA...**

November was Election Month - New Officers for the New Year 2000

President -	Rudi Wiedemann - KF6RLQ
Vice President -	Alan Kittrell - KE6YKK
Treasurer -	Ted Cameron - N6BFO
Secretary -	Elise Ciraolo - KF6TQB
Programs Facilitator -	Al Rendon - WT6K
Newsletter Editor -	William Artelt – WB9YVM

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SBARA PRESIDENT'S LETTER - JANUARY 2000

If you look at this January's issue of QST you'll notice that the ARRL gave it a fresh new look and feel for the year 2000. The core of the magazine hasn't changed, but it seems to have gotten more fun. That's a little like my vision for SBARA in 2000. More fun, responsive, interactive, as well as oriented towards whole-family participation.

SBARA's legacy is a sizable group of seasoned members who have contributed so much in the past, and from whom we can learn valuable lessons. Our future is all those new (and potential) hams who are still discovering the diverse joys of the hobby.

The SBARA 'Leadership Team 2000' has created the following mission statement for the Club: "Create exciting and engaging ham-related activities which serve the interests of the Club membership while attracting new members from the ham and non-ham communities alike." (that's a mouthful)

One of the tricks to a vibrant Club is a Leadership Team which serves primarily as a facilitator of Club activities. To achieve this, you'll see us 'spreading the load' among a lot more members. This is a great chance for each of you to contribute to the Club success in your own way.

Presidents Letter (contd.)
So here's a sample of what's in store for this year:

1) We're creating cool new positions in the 'Leadership Team 2000. This is your chance to help shape the Club activities and direction. Read more about it elsewhere in this issue.

2) We plan to DOUBLE the active membership this year with 'outreach' programs by showing each of you how to become a 'Hambassador'.

3) There will be a comprehensive 'new ham/upgrade' program to help you pass the test(s), understand all the jargon, get a (better) radio, and get on the air with your new privileges!

4) You'll see more involvement in community events & local organizations.

5) We'll have programs for the 'rest of the family' to enjoy ham radio so they won't feel left out.

6) We'll raise more money, and spend more on member benefit

So stay tuned 'cause it's gonna be a great year!

Rudi Wiedemann - KF6RLQ
SBARA President

CLUB T-SHIRTS FOR SALE

There are still a few SBARA t-shirts available for $10 each. Contact Helen Campbell at 510-790-0294 or helndugc@wco.com.

BECOME A 'HAMBASSADOR'

Do you have kids in school? Do you know someone in a retirement community? How about a long-distance truckdriver? Or senior citizens who travel in their RV? Maybe you belong to another local community services organization?

Here's your chance to spread the word about SBARA and ham radio in general. With your help, the Club can arrange for a 'show and tell' for your group. Please contact Rudi Wiedemann, Public Information Officer.

News: FCC Announces License Restructuring – Details at http://www.arrl.org or http://www.fcc.gov

LEADERSHIP TEAM 2000 OPPORTUNITIES

You've read elsewhere in this issue about the exciting new plans the current Leadership Team 2000 members have for this year. Here's your chance to contribute and expand the scope of what we can accomplish.

WEBMASTER: Keep the website current with Club activities, plans and general information.

QUARTERMASTER: Collect and manage the use of Club materials including radio equipment, A/V materials and books.

SPECIAL EVENTS DIRECTOR: a) ensure the Club has an organized presence at all important local non-club functions like Primavera, Field Day, Pacificon, etc, b) seek out or create engaging new community events and help organize Club participation.

PHOTOGRAPHER: Capture Club events and activities to share through the newsletter and website.

CHRONICLER: Research and summarize the Club history, and submit interesting 'snippets' about Club members and activities.

If you (or someone you know) is interested in

CLUB STARTS A 'RESOURCE COLLECTION'

Do you have radios, equipment or supplies you don't use much anymore (or belongs to the Club)? The Club is collecting donations of working (or easily serviceable) radios, antennas, equipment & ham-related materials. This can be anything from an old single-band 2m HT to a multi-band HF rig. We're also looking for Morse code training stuff, videotapes & recent license manuals. The whole idea is to loan these materials to new (and upgraded) hams, so with the help of their Elmer they can get their ticket and enjoy their new privileges faster! If you want see your stuff put to good use rather than collect dust, then please contact Rudi Wiedemann right away for donations.

* February 2000 Program – Guest Presenter*

BUILD A "SLINKY" HF DIPOLE

by Rudi Wiedemann - KF6RLQ

You may be as surprised as I was in learning that you could 'load up' a kids metal toy slinky. (the plastic ones don't load up worth a darn) In fact, if you get the right combination of turns count and length, you get a VERY nice 50 ohm load match to coax with a BROAD resonance band. At less than 1/2 the length of a standard wire dipole you have more choices on where to put up an HF antenna. Another advantage is that the whole kit can easily fit into a small ditty bag without becoming a tangled mess.

THEORY: A slinky antenna is basically just a 'continuously loaded' antenna. That's right, one big radiating inductor! Because we're gaining inductance this way, the resonant physical length can be shorter. Most shortened antennas use an inductor to achieve resonance. A slinky just takes it to it's natural limit.

BUILD IT: You can pick up the standard old metal slinky at any KayBee Toy store for about $4 each. See the chart below for how many you'll need for any given band. For the lower bands simply join the 2 slinkes by re-using the clip which closes the last loop. Take about 15-25 feet of coax with a PL259 on one end and solder alligator clips on the other. Finally, you need a way to 'string up' the stretched slinkies. Something slippery like a 30-50 foot length of 80-150 lb test monofilament line works best to allow the coils to space themselves up evenly. A 3 inch piece of scrap PVC tubing around 1.0-1.5 inches diameter can be used as a center strain relief to hold the slinkies together at the coax clips. Just drill a hole thru the middle to thread the monofilament thru. Use a hacksaw blade to put 2 pairs of parallel notches about 3/4 inch deep on each end to 'hang' the upper and lower parts of the last coil of each slinky. If you want to get fancy, put PVC end-caps on each end of the spacer to 'capture' the inner coils onto the spacer for faster setup next time. Finally you'll need some simple way to hold the outer end of each coil at the right distance. monofilament.

I've used everything from nylon line tied to the end coil, to small 'lanyard stoppers' strung on the monofilament.

BAND	COILS	TURNS	LENGTH (FT)
80m	4	180	15.0 - 17.0
40m	2	90	7.5 - 8.0
20m	2	42	7.0 - 7.5
15m	2	90	8.0 - 9.0
10m	1	18/68 *	7.0 - 8.0

*Just bridge the clips across the 18th and 22nd coil from one end.

TUNE IT: Start with the settings above. Remember that each slinky has around 90 turns. For bands requiring fewer turns, gather in the extra turns towards the center spacer and just clip your coax to the correct coil. Now stretch or shrink the length of both coils (keep them the SAME LENGTH) to achieve resonance. Tune using an antenna analyzer. Just remember that the number of turns sets the resonant frequency, and the length of the legs tunes the SWR. If your best resonance SWR isn't below 1.5:1, then add or subtract a turn on each leg and re-tune the length. You can easily achieve a 1.0 SWR at mid-band this way. With a little practice you could also use your radio to listen carefully for maximum RF noise levels to get close to resonance and then use your SWR meter to fine tune at low power.

PERFORMANCE: I've worked a lot of great DX at 100W with many forms of this antenna. It seems to be as efficient a radiator as any well-tuned wire dipole. As with any dipole, try to get it up at least 1/2 wavelength off the ground for best radiating pattern.

ENHANCEMENTS: If you want a more permanent setup, you can get the benefit of making the dipole rotatable! Just use the table above and wind standard #14 antenna wire over two sections of 1-1/4" schedule 200 PVC tubing. Be sure the coils wind in the SAME DIRECTION down the WHOLE LENGTH of the antenna. Otherwise you'll cancel out your radiation! Use hose clamps to hold the ends in place.

Slinky Dipole (cont').
Now slip the inner ends into a PVC 'T' fitting and use a length of heavier schedule 40 PVC as a mast. Drill a hole thru the top of the T fitting and run the coax up thru the mast and out the top of the T. Now clip the leads to the inner hose clamps. Tune as before, but make sure your coils are tight and evenly spaced to get best performance. You can wrap the coils in electrical tape or very large shrink tubing to protect against weathering. If you get REALLY ambitious you can even build a 3 element 'slinky Yagi' beam!

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Leadership 2000 Views
We sent our Field Reporter out and asked each leader the following question: "What two items who you do to increase the overall SBRARA Club and Membership this year?"

VICE PRESIDENT
Alan Kittrell - KE6YKK
As the new membership chairman for this year I have two main goals. First I want to find out what local Hams want SBARA to be, and what would help them get the most out of ham radio. If we can do that, then my second goal, to double club membership and double meeting attendance will happen naturally.

TREASURER
Ted Cameron - W6BFO
My vision for SBARA in the year 2000 is increased attendance at meetings. I hope that we can attract much better participation than the 15 to 25 percent in the last year or two.

PROGRAMS FACILITATOR
Al Rendon - WT6K
To have 'fun' programs that give something back to the membership thus creating more participation in SBARA.

NEWSLETTER EDITOR & WEBMASTER
Bill Artelt - WB9YVM
Create Ground Plane newsletters that are fun to read and enjoy!

Interesting Fact...
Did you know that you Radio Club – SBARA has a World Wide Web site?

Check it out at –
http://www.qsl.net/sbara/

Thanks to the current Web Development staff for making the Clubs WWW possible!
Newsletter Editor...

Newark Communications Volunteers
Meeting Minutes from12/8/99 Meeting:
- Our meeting was primarily dedicated to HAZMAT training and information presented Wayne Baumback of the Newark Fire Department. Wayne discussed the following topics.
Newark HAZMAT vehicles and equipment
HAZMAT processes used
HAZMAT's position in the Incident Command System
The types of hazardous material in Newark and where they are located
HAZMAT placarding
Our thanks to Wayne for taking the time to attend our meeting and provide the information and training. I will write a letter of thanks and copy the appropriate people.

- We decided to make another attempt to route the GMRS antenna feedline into the EOC. We will meet at 0800 on 12/18/99.

- We finalized to the greatest extent possible the plans for the News Year Eve EOC activation. The following items were agreed upon.
Robin and Ron will be at Net Control
Fire Station #1 will be handled by GMRS, probably Gene Hong
Fire Station #2, Mitch Marinovich
Fire Station #3, Jerry and Elise Ciraolo
- We will conduct roll calls every 30 minutes
- The radio amateurs will use the Newark Alternate simplex frequency of 146.555Mhz.
- Only those people named above will be activated with all other Communications Volunteers (even those not currently active members) on standby and should check-in when roll is called. Start times and estimated end times will be communicated before the end of the year.

Newark Communications Volunteers Late Breaking News
- We were unsuccessful in routing the GMRS antenna feed line into the EOC. The routing of the pull rope is through a passage too narrow. Given the estimated longevity of the current EOC we do not intend to try again at this time.
- A Y2K plan is attached. (embedded at the end of this document for those receiving this via email, excluded from the copy for the Ground Plane)

Agenda for the January 12th Meeting
- We will again be meeting in the Newark Library at 7:00 p.m. on January 12th.
- Discussion of the activation on News Year Eve
- Planning of what we'd like to accomplish in the year 2000

*Minutes written & provided by: Robin Kinney

SBARA Christmas Dinner - 1999
Many thanks to all the members that attended the SBARA Christmas Party. Everyone had a good time when we all met in December.

Steve receives an Award for his role as Club President – Let's give Steve a well-deserved hand!

December SBARA 1999 Christmas Dinner Photos !!!

SBARA Photo Album

January SBARA Meeting
Program Announcement

The January 2000 meeting program will be a demonstration of the 'home brewing' of a portable 2Meter/70CM-ground plane antenna. The antenna is described in this month's SBARA newsletter.

At the meeting John Cincotta N6PLR will be constructing a 2-Meter version demonstrating to new hams proper soldering skills. Come see how easy it is to 'home brew' this antenna. An antenna like this is a 'basic' component of any emergency 'go bag'. A Saturday hands-on workshop is planned for those members who are interested in constructing an antenna of their own.

The SBARA board of directors is listening to what you are telling us. So, come to the January meeting to see the type of program SABRA 2000 has planned for you.

Emergency Communications

Ground Plane Antenna

How would you like to have for your emergency 'Go Bag' a portable 2m / 70cm-ground plane?

INTRODUCTION

The idea of building a small portable ground plane that breaks down for efficient storage & transportation came to me in a 'round about' way.

It all started when I was at the 'salt mine' on a project to clean out a warehouse. A fellow ham Patrick Moretti KA1RB tapped me on the shoulder & asked me if I wanted ten BNC bulkhead connectors that were going to be thrown away. Being the 'pack rat' that I am I naturally said yes. I carried them home all the way from Memphis in my suitcase and tossed them on the 'heap' in my garage/ workshop just in case I might need them in the future. I quickly forgot all about them.

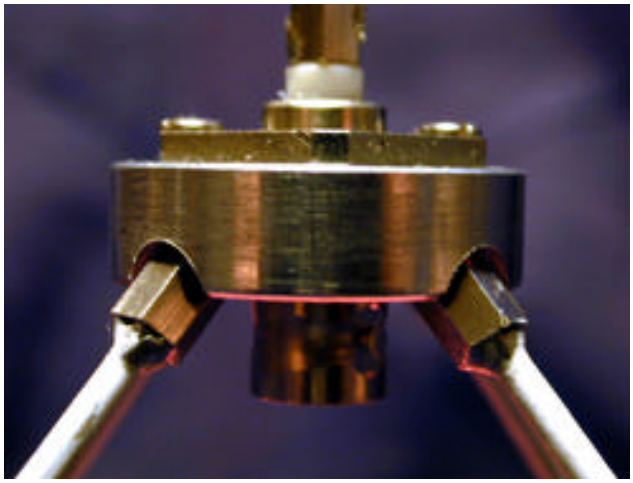
Months later I was having lunch with John Cincotta N6PLR for the purpose of brainstorming ideas for 'fun' projects that SBARA members might enjoy. I set the requirements that it had to be simple and that it should help develop basic 'home brew' skills such as soldering. John is full of ideas & before long was describing a ground plane antenna that would break down so it could fit in a go bag or backpack. At the heart of the project was a BNC bulkhead connector.

That night I found myself searching through the heap of 'treasures' in my workshop looking for the long forgotten BNC connectors. It is not uncommon for something to be stored safely in my junk box never to be seen again! As I looked I kept my fingers crossed. Fortunately, they appeared before I gave up, went out & bought new ones. Sound familiar?

DISCRIPTION

The idea is to use the bulkhead connector-mounting flange as the 'hub' for mounting four _ wavelength ground radials and the BNC center conductor for mounting the _ wavelength vertical whip section. When you are ready to operate a 50-ohm coax transmission line fitted with BNC connectors is 'snapped on' to the connector's BNC 'port'. "It's as simple as falling of a chair" my mother use to say.

This design is not new. The Radio Amateur's Handbook describes a similar antenna using a SO-239 bulkhead connector. What's been added is a machined disc with threaded holes into which the BNC connector and the four _ wavelength ground radials are screw mounted.



(Photo.2)

This makes it easy to disassemble the antenna and therefore convenient to store, transport and convert between 2m and 70cm-ground planes.

CONSTRUCTION

Home brewing this ground plane couldn't be easier. The antenna elements are made from 3/32 diameter brass rod. Cut the four ground radials and the one vertical whip to length.

Solder a threaded coupler to each rod. Solder a threaded coupler to the center conductor of the BNC connector. Screw the modified BNC bulkhead connector to the machined disc using 2-56 screws. Screw in the radials and whip. That's it folks!

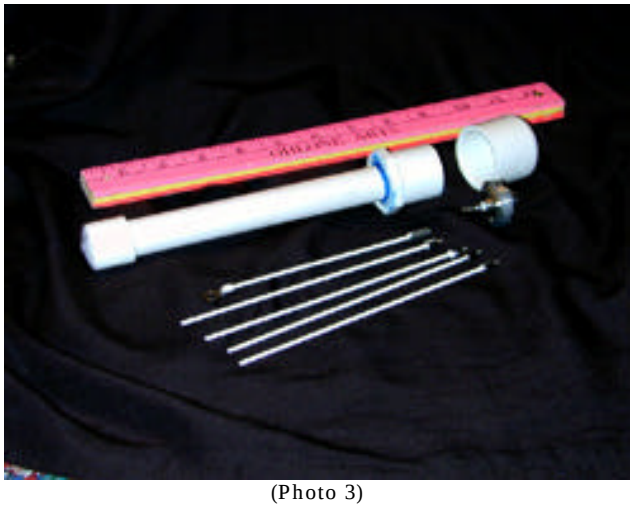
USING THE ANTENNA

A common problem in emergency service is how to 'erect' the antenna once you arrive. This antenna is designed to hang on a 'sky hook'. For you new hams sky hooks are what every ham dreams about naturally existing to erect antennas high above their QTH. For emergency service you need to come prepared. A hefty fishing weight, nylon cord and a tall tree will enable you to construct the necessary sky hook. Those of you who have come early in the morning to help on Field Day will know what I'm talking about.

The Ground Plane is fitted with a terminal lug on the top of the _ wavelength vertical whip for attaching to the nylon cord. As you pull the nylon cord over a branch of the tree, up goes the ground plane.

Be sure first to connect the coaxial transmission line or you'll be bringing the ground plane back down and starting over!

A second method is to mount the ground plane on a mast. The PVC carrying case is designed to be used for this purpose.



(Photo 3)

In this scenario you'll need to come prepared with your own mast and a roll of duct tape to secure the carrying case with ground plane to your mast. In the 'good old days' we'd have used bailing wire!

I think this project meets the goals of being fun, simple for a new ham and teaches basic soldering skills. John Cincotta will be demonstrating the construction of this antenna at the January 2000 SBARA club meeting. I think it will make for an interesting program. There will be a follow-on Saturday workshop for SBARA members that like the portable antenna and want to build their own. Keep an 'eye out' for the workshop date time and place in the February SBARA Ground Plane Newsletter.

73, Haywire

SBARA World Wide Web Welcomes 2000th Visitor - **W6VV** Congratulations Art!!!

QUICK REFERENCE CORNER

This Month: Local Regular Nets

NET	DAY	TIME	FREQ
NoCAL Net	Dly	1930	145.210-
Antioch EC	Sun	2100	146.535s
Livermore RACES		Mon	1900
	147.120+		
			145.350-
			145.430-
			PL 100.0
Hayward (EB) ARES	Mon	1930	145.130-
			PL 127.3
SATERN		Mon	1930
	147.060+		
			PL 100.0
SATERN		Mon	2000
	145.110-		
			PL 82.5
Tri-City ARES		Tue	1930
	147.015+		
SCC ARES	Tue	2000	146.115+
AlCo ARES	Wed	1900	147.240+
			444.200+
			PL 107.2
Contra Costa ARES	Thu	1900	145.680s
			146.535s
			146.355-
			PL 100.0
			145.110-
			PL 82.5
NAlCo ARES	Thu	1915	147.480s
			440.900+
			PL 114.8
Contra Costa ARES	Thu	1920	147.060+
			441.325+
			PL 100.0
Oakland ARES	Thu	1930	147.585s
			146.880-
			PL 77.0
Hospital Net	4 We	1200	147.060+
			PL 100.0

CLUB T-SHIRTS FOR SALE

There are still a few SBARA t-shirts available for $10 each. Contact Helen Campbell at 510-790-0294 or helndugc@wco.com.

Membership Report, January 1, 2000

For the year 2000, increased membership and increased member participation are high priority goals for SBARA. As the new membership chairman for 2000, I will be working to find out what Hams in the area are looking for, soliciting comments from present and past members. SBARA plans to actively promote ham radio in the community and will be adding many new members this year.

It's time for everyone to renew their membership. Last month's Ground Plane contained a renewal form; this month it's there again. Please fill it out and send it, along with your dues, to the club PO Box. If you prefer to renew in person, or pay cash, you can bring it to the January SBARA meeting.

As of the first of the year we have fourteen renewals. Thanks to all of you "Earlybird's" for getting the ball rolling. Next month we will be reporting higher numbers as renewals start coming in from most members.

I will be using e-mail to remind members to renew (pay their dues), to announce meeting and club functions, and to solicit ideas and requests for new club activities and programs. Please provide your current e-mail address when you renew your membership. We think this will be a good way to increase contact with the club membership, If any of you do not wish to receive club announcements, let me know and I will remove you from my list.

I'm looking forward to having a lot of fun with ham radio this year, see you at the next meeting!

Alan Kittrell KE6YKK

February 2000 Program Announcement

Professor Robert Twiggs (KE0MD), Director of the Stanford Satellite Development Laboratory, plus one grad student and two Stanford mentors will present an overview of the satellite activities at Stanford University. The team will show the prototype of "Sapphire", the first student built satellite at Stanford along with short videos, slides and several examples of "daughter" satellites, called picosats and CanSats (a complete satellite contained in a soda can).

They will also show an example of an amateur radio cross-band VHF repeater which is about the size of a paperback and weighs less than 2kg that is scheduled to fly next year.

Bring a guest to the February meeting. The program is especially interesting to high school age children so invite a high school age neighbor or family member. It is a great opportunity to introduce them to amateur radio and particularly to SBARA.

Editor's Note: This is a MUST attend Presentation !!!!

Upcoming VEC Test Sessions

Date & Time	Location
Sat, Jan 15, 0800-1100	Cupertino
Sat, Jan 15, 1100	Redwood City
Sat, Feb 05, 0800-1100	Cupertino
Sat, Feb 12, 1030	Sunnyvale
Mon, Feb 14, 1900	Fremont
Sat, Feb 19, 1100	Redwood City
Sat, Feb 19, 0800-1100	Cupertino
Sat, Mar 11, 1030	Sunnyvale
Mon, Mar 13, 1900	Fremont
Sat, Mar 18, 1100	Redwood City

Test Locations

FREMONT
Fremont Community Center
40204 Paseo Padre Parkway
@ Lake Elizabeth, just S. of boat ramp

SUNNYVALE
840 Washington Ave.
Washington Park

REDWOOD CITY
American Legion Hall
651 El Camino Real

CUPERTINO
Compaq Computer, Tandem Div.
19333 Vallco Parkway
(FIRST street S. of Vallco Mall bridge)
(register with Security FIRST)

SBARA - CALENDAR OF EVENTS

CLUB MEETING JANUARY 19, 2000

PLACE - FREMONT COMMUNITY CENTER
TIME - 7:30PM
SABARA kicks off the new Century with a host of plans for the new year. Come and join us for a fun-filled evening.

January Program – Construction plans for 2m/70cm Ground Plane antenna.

VE FCC LICENSE TESTING

PLACE - LAKE ELIZABETH BOAT HOUSE
TIME - 7:00PM
Take you FCC License Exam hosted by the Sunnyvale VECs. Cost is $6.50 for each exam – Novice thru Extra including code tests are given the second Monday of every month.

Upcoming test dates are:

February 10, 2000

Fee: $6.50

Two Forms of Identification are required prior to testing.

SBARA

SOUTH BAY AMATEUR RADIO ASSOCIATION

For the year 2000 SBARA will continue to serve the Tri-Cities area and plans are underway to expand our Club Activities and Special Events. Our goal is to *Double* club membership this year, and *Double* attendance at monthly meetings.

We have surveyed the membership to help us better fill the needs of our area Hams, there will be new programs and activities during the coming year to help you make the *Most* of your Amateur Radio License.

In order to accomplish this we need dues paying members, so each year about this time we send out the notice:

It's Dues Time!

Please check the appropriate box, give us your name and callsign, and send in your check. If you wish to pay by cash, please bring this notice, along with your money, to the next SBARA meeting.

Regular Membership ($15) ☐

Family Membership ($20) ☐
Two or more family members at the same address

Senior Membership ($5) ☐

SBARA Treasurer
PO Box 8377
Fremont, CA 94537-8377

Thanks, we appreciate your continued support.

Alan Kittrell KE6YKK, *Membership Director*

Callsign: _____

Name: _____

Address: _____

Phone: _____

eMail: _____

SBARA MEMBERSHIP SURVEY

Name: _____ Call sign:_____.

I have been licensed for _____ years. I currently hold a _____ class license.

Please check off EACH area you're interested in participating in or contributing to:

BANDS:	❒ ULF	❒ HF	❒ VHF	❒ UHF	❒ Microwave
MODES:	❒ Phone	❒ CW	❒ Packet	❒ Satellite	❒ SSTV
EVENTS:	❒ Primavera	❒ Field Day	❒ Pacificon	❒ T-Hunts	❒ Baker-to-Vegas
MISC:	❒ Antennas	❒ Kits	❒ QRP	❒ DX'ing	❒ ARES/RACES
	❒ APRS	❒ Solar	❒ Portable	❒ Mobile	❒ Contesting
OTHER:	❒ _____				
	❒ _____				
	❒ _____				

Please list other amateur radio groups you are actively involved with:

_____

_____

Are you interested in upgrading your license? Y N

What do you think is the biggest <u>barrier</u> to your license upgrade?

_____

Do you know someone who might be interested in amateur radio? Y N

Would you be willing to be a mentor to a newcomer to ham radio? Y N

What other community-services organizations do you belong to?

_____

What kind of presentations and projects would you like to see SBARA organize for you?

_____

_____

_____

(use back of this sheet if you need extra space)

The Ground Plane
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